Zab's Bronzes™

Argiles de Bronze - Metal Clay

User Guide Zab's Luna Bronze™

Zab 's Luna Bronze™ is a fine silvery white bronze compound by a minimum of 80 % copper , 20% tin and an organic binder .
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For a perfect success, here's what I recommend:

Mixing

Pour the powder into a bowl.
Add water (distilled or tap) at once.
either:
per 50 grams of powder > 6,7 gr or 6,7 ml
per 100 grams of powder > 13 gr or 13 ml
per 250 grams of powder > 33 gr or 33 ml

Mix with a spoon,
water enters after a few moment(due to the very fine metal particles).
Insist without adding water (consistency of a short crust pastry at the beginning).

When the ball is compact,
put it between 2 plastic films and roll it several times until it becomes smooth and pliable.
Replace ball in a sealed plastic film.
It is ready for use as the other metal clays.
The clay will keep in the refrigerator and / or freezer.

The indicated water dosages are for consistency of a medium and soft clay (neither too soft nor too dry).
Use a little olive oil for dry hands.

drying

Lay the pieces on a smooth and porous surface to facilitate drying under parts.
As soon as possible put on a grid for uniform drying.

Drying on a grid

You can dry in ambient air or accelerate in a domestic oven (about 75° C / 167°F and maximum 90° C /194°F) or a radiator, or a hotplate, or a dehydrator etc.
When you accelerate drying, prefer the grid as support, it prevents distortions.

When your pieces are dry, you can make your finishes with file, craft knife, sanding sponge etc…

To move to the next step, make sure that your pieces are completely dry to heart with the mirror test:
heat the piece (hair dryer, oven etc..) and place on a mirror,
if there is no mist it means that the piece is dry.

Debinding or Phase 1

Lay the pieces on a raised small pad in the High Temperature kiln rack.
Do not block the ventilation holes and leave the door half-opened (pushed forward without clip / lock).

Programming:
- For any kiln
ramp in 15 minutes - target temperature 380 ° C / 716°F
– hold for 15 minutes.

- For Prometheus Pro-7 PRG
Full> 380 ° C / 716°F > hold for 15 minutes.

Remove at the end of firing and let cool to be able to catch the pieces.
Luna Bronze is not more fragile raw than debinded.
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In the kiln

Colors after debinding or phase 1

Firing or Phase 2

The firing is done in High Temperature kiln with activated coconut carbon in a stainless steel container.
(If you use a new coal, you must first activate it by firing at 800 °C/1472°F 1h)

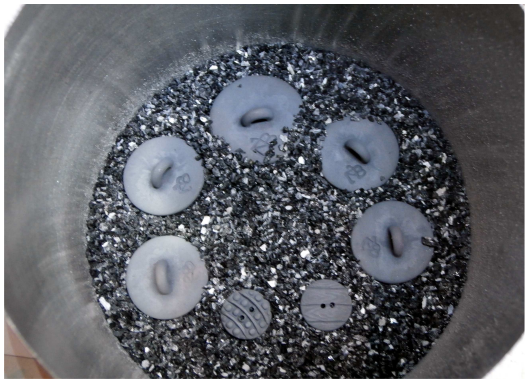
Fill your container with a layer of activated coconut carbon about 2,5cm /1″, put the pieces and cover at least 3cm /1″1/4.
Fire in elevating the container (grid or pads).

My protocols are tested in three container sizes :
1 - diameter 8.5 cm/3″1/4 and height 4.5 cm/1″3/4
2 - diameter 10.5 cm / 4″ and height 8.5 cm / 3″1/4
3 - diameter 16 cm / 6″1/4 and height 10 cm / 1″
The greatest the container is, the longer the holding must be.
I give an average time for each container.

Programming:
- For any kiln
ramp in 48 minutes> target temperature 770 ° C / 1418°F
Hold for container 1 : 1:20 to 1:30
container 2 : 2:00
container 3 : 2:30

- For Prometheus Pro -7 PRG
Full > 770 ° C/ 1418°F >
hold for container 1 : 1:20 to 1:30
container 2 : 2:00
container 3 : 2:30

I recommend you to test parts.
Each kiln is different and the kiln temperature may vary from 5 °C / 40°F to 10 ° C/ 50°F.
Try to get a reliable protocol for you.



Example : pieces in the container

Container in the kiln

Removing after firing

Remove pieces from the kiln hot or cold.
For removing hot, I suggest,
cover with cold coconut carbon and put a lid to reduce oxidation generated by the air.
Make it cool.

Finishing

Brush.
For optimum finish, I recommend red propellers in Zina shop:
http://zina-shop.com/PrestaShop/product.php?id_product=1440
and gray:
http://zina-shop.com/PrestaShop/product.php?id_product=1441

You must obtain a smooth piece of fine texture and bright color.
If this is not the case, adjust the temperature and / or firing time.

Reduction after firing - Shrinkage

Reduction Luna Bronze may vary from 11% to 16% depending on the hydration of the clay (more or less water), the surface and thickness of the work piece.

Example
-for a ring 6 cards thick (2mm) and 3mm wide, count 3 French sizes more.
-for a ring 6 cards thick (2mm) and 10mm wide, count 5 French sizes more.

Test before undertaking complex parts!